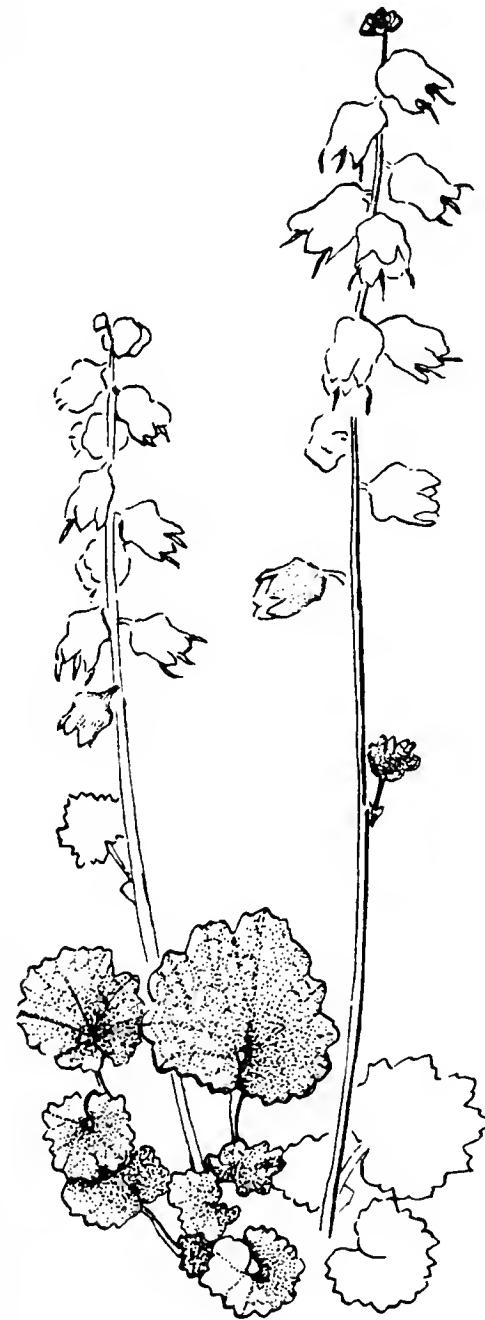


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Summer-Fall 1985

Horticulture Northwest

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Sallie D. Allen, Editor

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Cover Illustration

Elmera racemosa
Mareen Kruckeberg

A GEM IN THE ANTIPODES

Brien Fisher, Invercargill, New Zealand

Separated from the South Island of New Zealand by 15 miles of Foveaux Strait, lies Rakiura (land of the glowing skies), so named by our Southern Maori people, who looked out at the glorious sunsets behind the hills of their home.

It was not until 1809 that the ship Pegasus, under the command of Captain Chase, first circumnavigated the island and named it Stewart, after his First Officer.

Fishing is the only notable occupation of the island's 400 inhabitants, most of whom live in the small village of Oban.

It was to Oban that we took the inter-island ferry from Bluff, on the mainland, one clear, sunny day in February. On arrival, after an uneventful calm crossing, plans were made to visit Masons Bay on the other side of the island, to the west from Oban. The purpose of our visit to Masons was to try and relocate the rare *Gunnera Hamiltonii*. It had been reported growing there in 1925, very little being heard of it since. That west side of the island, where lies Masons Bay and the Ruggedy Mountains, receive the full force of the roaring forties.

However, the weather was kind, and we set out up Patersons Inlet by Forest Service Launch; Dave Wilson, the ranger, having kindly invited us along. He was going into Masons on business and, being very interested himself in the native flora, was only too happy for us to accompany him. I had told Dave how Colin McKay (my companion) and I had first seen the rare *Gunnera* growing on the sandhills, near the outlet to the Oreti River on the mainland, the only other area in which it had ever been reported growing. But oh! what a sorry sight -- with encroachment of lupins and other smothering plants, I doubted it surviving but two more seasons. It had been forced by these plants to a last-stand position, in an area not really suitable for its growth -- the ground being too steep and too dry. Some keen local members (including myself) of the Southland Section of the Royal Forest and Bird Society had done our best to preserve the plant in its last-ditch stand, but we fear the worst. So it was now to Masons we were going, hoping to see a better sight.

The launch trip up to the inlet took but a couple of hours, and by three o'clock in the afternoon, we had reached the entrance to a narrow channel taking us into the Freshwater River. This part of the journey being rather tricky, and negotiable only at high tide, some time was taken navigating the narrow passage. However, once in the deeper water of the river, it was full steam ahead. After a further half hour's travel upriver, around its many bends, among the flax, manuka, and tussock of the low swampland, we reached a point where it became too shallow for safe travel. Here we tied up at a small jetty, and it was everyone out, packs on back, ready for the four hours' tramp across country to Masons.

The track was a good one, being passable by four-wheel drive vehicles at most times. This made walking much easier, especially with a fifty-pound load on one's back, and allowed the easier observation of the flora of the area. For almost three quarters of the entire ten miles to Masons, we tramped over springy peat-turf, sometimes swampy, sometimes dry, but always with the same predominance of plant species everywhere. Red tussock and Manuka (*Leptospermum Scoparium*) were everywhere. Of the lower growing species, the following were noted in abundance: *Gunnera prorepens*, spreading out over the ground in patches many yards across, its red berries very colorful at this time of the year. *Nertera depressa*, a small creeping plant, was again very colorful, with its bright yellow berries, as were *Pentachrodra pumila* (little mountain heath), and *Cyathodes empetrifolia*, red with berry, and a few small white flowers still showing. The sundews, *Drosera spathulata* and *D. arcturi*, with their curious bright red carnivorous sticky leaves, and another *Nertera* (with hairy leaves), *N. dichondrae-folia*, formed a close association. Of the tiny swamp plants, *Utricularia monanthos* (purple bladder wort), only two inches high, still had a few flowers showing. This strange little plant which feeds on living organisms from the soil water by means of capture in a tiny bladder attached to its root system, is one of the most colorful of the swamp plants. When conditions are such, of a nature not yet fully understood, the plant will flower profusely, the ground taking on the appearance for a few short weeks in late summer, of a lilac carpet for many hundreds of yards. In other seasons, only a few spasmodic flowers will appear.

Of the other swamp plants, the little white *Viola cunninghamii*, yellow berried *Cyathodes fraseri*, the sky blue orchid *Thelymitra longifolia*, and the little creeping odd flowered *Pratia angulata*, were also seen, but not in such abundance. These then were the plants observed of this swampland. Others, *Donatia nova zelandia*, celmisias, and other orchid species, were probably present, but the need for pressing onwards to our destination did not allow time for a detailed study to be made away from the track.

Our path wound around the base of a steep hill in this broad swamp valley, the elevation of the terrain varying little. Presently, after passing through an area of dense Manuka scrub, we emerged onto a large swamp plain. After crossing this, a distance of some four miles, the ground rose somewhat, gave way to sand, and the sea could be heard in the distance. With the sight of the sandhills, we knew Masons was not far off, a time to unburden our now weary bodies, and something hot and savory, to fortify the inner man.

The homestead of the sheep runholder is set against what is known as the Big Sandhill, an imposing outcrop of rock and sand, some 200 feet high. After paying our respects to the runholder, we tramped a further mile through a long spur of Native Forest running down to the sea. A camp site was found near a small stream and, after pitching our tent under the leaning bough of an old knarled mutton-bird tree (*Senecio reinoldii*), we set about the task of preparing some food, over the every-ready portable primus. The meal over, we turned into our sleeping bags, ready for an early start the next morning.

The dawn came with a hint of rain, but after some early morning drizzle, the weather cleared much to our delight, as we did not fancy tramping through wet bush at that time of the morning.

The area in which we had camped, a long spur of forest within miles of rolling sandhills, ran down to another small stream where it gave way on the other side to a further half mile of rolling dunes before the beach of Masons was reached. We decided to explore the area to the north, that is north of the bush spur, the stream affording easy access to both right and left. Once over a high sandridge, a broad damp open valley was reached. The ground here was a mass of Gunnera, not hamiltonii as we had hoped, but the splendid little species *G. arenaria*, one of the smallest of the prostrate gunneras. The entire valley seemed one congested mass of this plant, and the sight of it in berry was truly magnificent. A broad blaze of orange carpet, spread out over the entire area, even creeping up the dunes, a short way on either side. As with all New Zealand gunneras, the spread was by means of strawberry-like runners, just under the soil surface, popping up at intervals of a few inches, with a new leaf rosette. I counted 213 seed heads, each containing perhaps 200 little berries, on a area of just over two square feet. Working that out over a valley of some 300 yards by 200 yards, the total number of seeds being dispersed, the mind boggles!

As this one plant predominated the area, we decided to move across the stream to the sandhills running down to the beach. Away from the stream, seawards, was most unrewarding, the sand being unstable and shifting constantly; plants, other than a few hardy grasses, could not gain a foothold. However, on the banks of the stream, a most interesting plant association was to be found. Mats of the silky leafed *Pimilea lyallii*, white with berry, clothed the ground along with masses of the orange berried *Gunnera arenaria*, and *Cyathodis fraseri*. Here, too, was found for the first time such plants as *Geranium sessiliflorum*, the little member of the rose family *Acanea novae zelandia*, delightful with its little bronze burrs and a *Coprosma* sp, very dwarf, with opaque pale dupes. It grew from a six-inch central woody stock horizontally, its thin wiry twisted branches, making a prostrate matt, intertwining down towards the ground again. I would identify this species as probably a local form of *Coprosma brunnea*. *Pratia angulata* was also found in great abundance, purple with berry, as too were great masses of *Pernettya macrostigma*, the pink form of the prostrate snowberry. The distinct colors of all these plants in fruit, close in proximity to one another, certainly made a marvelous display. As will be realized, many of our plants having insignificant flowers, it is their fruit which gives the color. Among this mass of plants, we wandered slowly upstream, turning inland as we did so, to the other unexplored side of the bush spur.

After climbing over a small sand ridge, away from the stream, a long narrow valley between the bush and open sand dunes, running inland up to the Big Sandhill, was reached. Bare sand gave way to scattered clumps of *Pimilea lyallii*, and then ahead, the valley gave a hint of something good to come. A broad stretch of solid groundcover greeted our eyes. As we reached this, we caught our first glimpse for the area of *Libertia peregrinans* (N.Z. Iris sp). This plant, plus *Pernettya macrostigma*, seemed to dominate the area. Then, walking a little further, we looked to our feet and saw what was the valley carpet. Yes! There it was in all its natural glory, *Gunnera hamiltonii*, a solid mat, intertwining with *Pernettya macrostigma*, 250 yards long by $1\frac{1}{2}$ chain wide, its bronze green foliage shining in the early morning sun. For us, at least, the legendary plant of Masons Bay was a legend no longer.

May I give here a short description of the plant and a little of its history. The best description that I know comes from The Vegetation of New Zealand, by L. Cockayne, who in describing the plant says: *Gunnera hamiltonii* (of the family of plants known as Halora-gaceae), another rosette plant, is more striking still, making large congested flat mats over a wide area, from its far-creeping fleshy underground stems 5 mm in diameter, of pale dull brownish green leaves (bronze red beneath and much veined), with finely toothed margins, stout midrib and veins, and long petiole. It grows very rapidly in cultivation, and seems to perfectly fitted for its moist sandy habitat that it is truly remarkable, in being one of the rarest species of the New Zealand region." Its history being that of the only two places in which it has ever been discovered, the first was made by a Mr. W. S. Hamilton (after whom the plant is named), in the sandhills near the mouth of the Oreti River Southland. The second discovery was made by Mr. W. Traill at Masons Bay Stewart Island. Both reported findings came to hand in the latter part of the nineteenth century. The plants at the Oreti River were lost for many years after the first reported find, due to the lack of detailed location being given by Hamilton. It was not until the 1920's when a Mr. C. M. Smith rediscovered it again by accident. This patch, as I have said earlier, being now all but extinct, only that at Masons Bay will soon remain.



Fig. 1

*Gunnera
hamiltonii*

Kathy D. Bulfin

There now arises the very curious state of affairs where a plant is found in only two situations, separated by twenty miles of ocean and, further, twenty miles of land. How did this occur? I spoke recently to Dr. R. A. Falla, Director of the Dominion Museum, whose theory is that this plant had once been much more widely distributed on the sandhills of the Southland coastline, and possibly further north. For some reason (which still remains a mystery if it did occur, considering its compatibility and strong growth in cultivation), the species diminished before the coming of the European, to a point where that which was finally found was but a remnant of the original. As to how it came to be on Stewart Island, either it crossed a landbridge by its creeping habit, in some bygone era when the island was connected to the mainland, or, as Dr. Falla said, could it be that burrowing birds, nesting in the area of Southland, carried seed to the island in their plumage, picked up as they scrambled from their burrows. This suggestion also raises the possibility of an answer as to the connection between so many South American plant species and our own. However, all of this is only theory, but a very interesting theory.

Perhaps with all this the plant may be much more wide-spread at Masons than is at present thought. This year, we have only had time to investigate one small area of the "Bay", scratching the surface as it were. Next year, I hope to be able to make a detailed investigation of the entire sandhill area.

May I make a final plea for conservation. I think it vital that something be done soon to safeguard the continued healthy existence of *Gunnera hamiltonii* at Masons Bay. I would suggest that interest be generated for the setting up of a reserve for its protection. Otherwise mankind, once again in his folly, with his introduced plants, animals, and toxic chemicals, will wipe out the last remaining wild stand of this remarkable little plant.

Editors Note: Anyone knowing the present address of author Brien Fisher, please contact Sallie Allen.



WE'D LIKE TO USE YOUR TALENTS!

Come see the Center from the inside! Join our group of volunteer receptionists at the Center for Urban Horticulture. For information on training and schedules, call Becky Johnson at 543-8616. (If necessary, leave a message and she will return your call.) Looking forward to meeting you!



NOHS PLANT SALE - 1985

WHAT'S HAPPENING!

THE CENTER FOR URBAN HORTICULTURE

OPEN HOUSE - OCTOBER 4 and 5

All friends of horticulture are cordially invited to the second annual open house of the Center for Urban Horticulture. This year the Center is featuring its newly opened Elisabeth C. Miller Horticultural Library. Projects and exhibits will also be on display in research laboratories and continuing education facilities. Other attractions include the Northwest Horticultural Society plant sale (Friday only) and horticultural displays prepared by Puget Sound plant and garden societies. Refreshments will be served.

Join Center faculty, staff and graduate students for this festive event.

Friday, October 4, 10:00 A.M. - 5:00 P.M.

Saturday, October 5, 9:00 A.M. - 12:00 Noon

Union Bay Campus

3501 N.E. 41st Street

at the edge of the University of Washington

Seattle, Washington

PLANT SALE (Friday only)

9:30 A.M. - 6:00 P.M.

BONSAI

Leo Cunningham, Seattle, Washington

The Bonsai Department is offering an exciting collection of rare maples, cultivars of *Acer palmatum* described by J.D. Vertrees in his comprehensive book *Japanese Maples*. Look for 'Butterfly', 'Bonfire', 'Kachimo' and others. Other unusual maples are *A. ginnala*, *A. buergeranum*, and *A. campestre* - dwarf form. A fine selection of crepe myrtle, pine, larch, juniper and ginko will be awaiting you. There will be finished Bonsai, both indoor and out.

COLLECTOR'S CORNER - WHAT'S NEW?

Sallie D. Allen, Seattle, Washington

We who have worked together for many years in the Collector's Corner of the NOHS Fall Plant Sale enjoy the challenge of seeking out new and desirable plant material, native or exotic, to grow, propagate and to introduce to our discriminating gardeners of the Pacific Northwest. It is particularly exciting to be able to introduce to you something so rare that it has never been in cultivation anywhere before.

Introducing *Cassiope lycopodioides* var. *gracilis*, (not to be confused with our Northwest native *C. mertensiana* var. *gracilis*.) In the fall of 1977, I received a packet of Japanese native plants collected in the wild and sent to me by a friend of long standing, Dr. Tsuneshige Rokujo of Tokyo, Japan. Included within the packet were two fascinating *Selaginella* species forming neat rosettes of intricately structured foliage, *Vaccinium uliginosum* var. *compactum*, much different than our native *V. uliginosum*, *C. stelleriana* and a minute rooted bit of *C. lycopodioides* var. *gracilis*. This is the most diminutive *Cassiope* species I have ever grown including the difficult *C. hypnoides*. The tiny leaves are closely imbricated, like shingles on a roof, with a pronounced hyaline margin, giving a glaucous blue-green appearance. The foliage color is similar to *C. lycopodioides* var. *crista pilosa*, the American form found in the mountains of British Columbia and Alaska. However, it cannot be confused with any of the named forms because of its size and habit of growth. The foliage is much branched, densely packed, forming a mound about three inches high. In eight years it is a hummock about six by eight inches.

This spring of 1985 is the first year that it has flowered freely . . . An absolute joy! The corollas are typical of *Cassiope lycopodioides* in size and shape, white elfin bells with recurved lobes and distinctive red calyx. They appear in two's, three's or four's each on fine thread-like pedicels growing from the leaf axils toward the tips of the branches.

Propagations are slow to reach saleable size, and at that are so small that I would suggest that it be grown in either pot or trough so that you will be able to keep track of it and enjoy watching it develop into what will always be a conversation piece for you and your visiting gardening friends. To our knowledge, *Cassiope lycopodioides* var. *gracilis* is not in cultivation anywhere else in the world.

* * *

Erigeron chrysopsidis 'Grandridge' will be a bright and cheerful addition to any rock garden or container planting. It was carefully selected from cuttings from the wild for its superior habit and form, grown on for a number of years among other selections, at Grandridge Nursery and found to be almost everblooming. It forms a congested small clump of spatulate leaves reminiscent of *E. aureus*, with bright yellow daisy flowers on short scapes. We are delighted to be able to offer it for the first time this year in the Collector's Corner.

* * *

Gunnera hamiltonii, described by Mr. Brian Fisher in his fascinating article, "A Gem of the Antipodes", this issue of the Journal, Page 25, has been in cultivation in a limited way especially in warmer climates like California. The question of hardiness in the Pacific Northwest has been debated for years. All plants potted up for the 1984 NOHS Plant Sale, perished the winter of 1983 (temperature dropped to two degrees above zero here) while those in the open ground have flourished creeping their way down an incline as well as edging into a firbark pathway. Despite the fact that it has never flowered or fruited in the garden, it is a very attractive addition for the collector of rare plants.

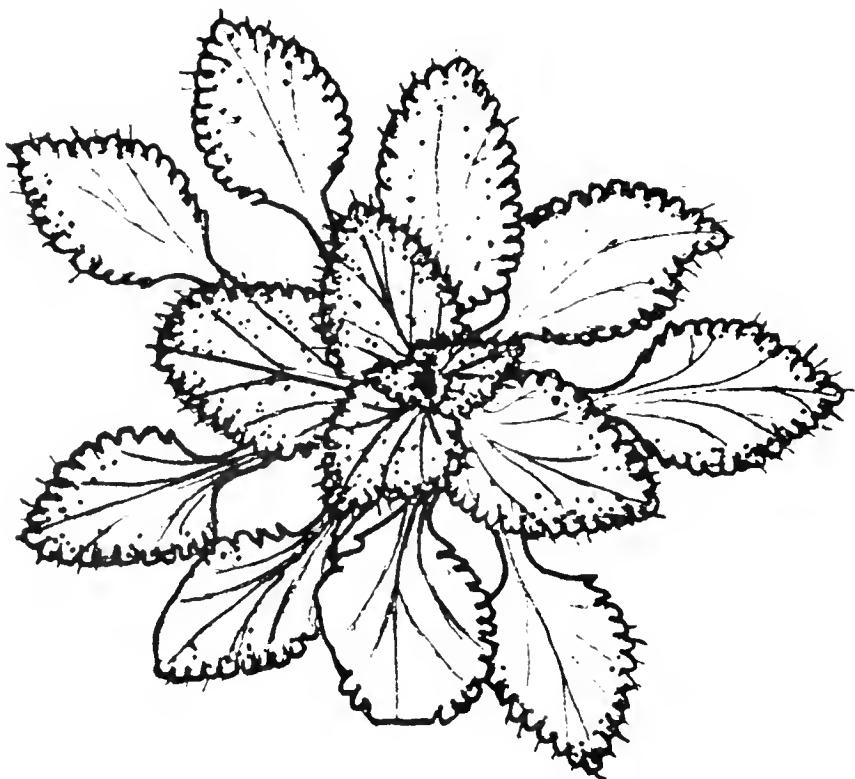


Fig. 2

Gunnera hamiltonii

Kathy D. Bulfin

* * *

Kalmia latifolia forma myrtifolia is the dwarf form of the beloved mountain laurel of the east coast. It has dark green leaves about half the size of those of *K. latifolia*, and more densely arranged forming a most attractive, slow growing shrub. It has been in cultivation in Europe since 1840, but it is extremely rare today either in gardens or in the wild. My plant came in 1973 as a rooted cutting sent by Dr. Richard A. Jaynes (author of The Laurel Book) from the Connecticut Agricultural Experiment Station, where much work has been done on the genus *Kalmia*. The flowers are typical soft pink of *K. latifolia* but not so freely produced. In 13 years it has grown to four feet in height, taller than anticipated due probably to being grown in too shady a situation. Plant kalmias in their permanent location, as they resent being moved once they are established; be sure they have sufficient light to assure maximum bloom. We are propagating *K. latifolia forma myrtifolia* but only a few are available this year.

Come to the Collector's Corner, not only for the new and rare plant material, but also for superior and/or unusual selections of old favorites.

GROUND COVERS

Jeanette Michiel, Seattle, Washington

This year we will be featuring several varieties of Gaultheria, as well as some interesting varieties of cotoneasters, both prostrate and sub-shrub types. Of special interest will be *Arctostaphylos media*, believed to be a natural cross between *A. uva-ursi* and *A. columbiana*. Rare! Also many heathers and other interesting sub-shrubs, and varieties of ground covers.

POTPOURRI

Joanne Little, Seattle, Washington

The 1985 Potpourri Department will be featuring a wide variety of houseplants selected to appeal to all of the senses. *Hoya*, *Spathiphyllum*, *Cardamom*, *Clivia* and *Crassula* are just a few choices that will excite the sense of smell and sight while giving a spot of color to interior decor. Various textures in *Beaucainea recurvata*, *echeverias*, *euphorbias*--both yellow and salmon flowered--*Aspedistra*, *Hexine soleirolli*, *Saintpaulia* and *Dracena* might provide a softening effect or draw interest to the living areas. Baskets will again be available in the Potpourri Department, as a compliment to the wide selection of plants to decorate every room in your home.

RHODODENDRONS - A FATAL FASCINATION

Renee G. Hill, Bellevue, Washington

Our Northwestern Washington climate is almost perfect for rhododendrons. The range of varieties successfully grown here is astounding. Glorious colors of every hue and tone are available to the gardener.

Hybridists are continually working to improve colors and plant habit. With the appearance of *Rhododendron yakushimanum* some twenty years ago, an entirely new group of plants was fostered: Plants that remained dwarf, with interesting foliage, good truss habit, and of a mature size to accommodate nicely to the home landscape. Many new hybrids with *Rhododendron yakushimanum* in the parentage are now available in the trade. They will delight you.

As though plants to beautify our gardens was not enough, a more tropical series, *Rhododendron vireya*, is sweeping the world in interest. These natives of Borneo, New Guinea, and Australia, with many as yet undiscovered nor in cultivation, can be successfully grown here as plants for cool greenhouse, window greenhouse, or even house plants in winter and outdoors in the summer. These are in a different color range than the usual rhododendrons, and bloom any time throughout the year. Our SALE will have a few to get you started!!

At NOHS PLANT SALE we endeavor to bring a representative selection of all the rhododendrons grown--for use in landscape, special plantings, or anywhere a lovely shrub is needed. Given a good, humusy, initial planting, it will require little care and will reward with blooms for years.

Once one starts "collecting" rhododendrons, there is indeed a fascination in observing color, leaf texture, indumentum, and the many differences among the species. There is a rhododendron for every garden situation!



PLANT NOTES

James R. Cross, Cutchogue, New York

Pachistima canbyi - dwarf form is not a miniature but is clearly more dwarf and compact than the species--enough so that a single plant can fit into the alpine garden for a good number of years. It is a much neater edging plant which seems to grow more from the original crown and less from outgoing stolons. It responds to much the same cultural conditions as the species. Although it is far from tolerant of a hot, dry location, it is much more drought and heat resistant than the *P. myrsinites* of the Pacific Northwest (which just won't do in the East). It propagates readily on soft of hard wood with a mild hormone. Like the species, it benefits greatly from a good mulch. This form was apparently selected out many years ago when the fine plantsman, Don Richardson was with the former F & F Nursery. Harold Epstein has grown this plant in his garden ever since then.

Arctostaphylos uva ursi 'Big Bear' was found high up in Montana by the Big Bear Creek by Peg and Ray Preg of Forestfarm (nursery) in Williams, Oregon. It is probably a more significant find for the Northeast than for the Northwest since the latter already has a number of selected ornamental forms of the prostrate *Arctostaphylos*, none of which have proven hardy in the Eastern winters. 'Big Bear' easily survives Zone 6 winters (at least). It has much larger and more glossy leaves (winter and summer) than the native species and also is a more vigorous grower. The result is a faster, more ornamental ground cover for poor, acid, sandy soils. Culturally it seems similar to the Eastern species although it (hopefully) shows some tendency to be less fussy. More observation time is needed to be certain of this.

Gaultheria procumbens 'Mt. Tumbledown' is a discovery of avid rock gardener Pam Proctor of Englewood, New Jersey. She found it as an isolated saucer size patch in the White Mountains, it having caught her eye by its low, compact growing habit. Its leaves are large and almost round held up by much shorter stems so the foliage closely overlaps to make a solid mass of its very ornamental leaves. When pot grown, it reveals the habit of putting out many more stolons than the species so it should be a better spreader as well as a better "filler inner". The total years of trial and observation of this plant are not great but it looks like a very useful selection.

Rhododendron keiskei cordifolia is a bit confused as to proper nomenclature and there are few good solid references in our publications. In any event, there are two hardy dwarf keiskei in garden circulation in this country. One, very hardy for keiskei, was formerly known as "dwarf form" but more recently and more appropriately became "compact" form.

It grows into a wider than high compact mound (two feet high by three feet wide in 15 years). The fully mature exposed leaves are typically up to one and one-half inches long and a bit more than five-eighths inch wide ovate to elliptic with a dulled down acute tip (less of point than *cordifolia* especially so to the casual eye). The Compact form blooms early (early in third week of April on Long Island) when ground frosts are still a real risk to the flowers on low plants.

Cordifolia has a noticeably lower and flatter habit. It builds into a low mound wider than high but the main branch structure always makes the plant appear like it wants to flatten out. The mature leaves are typically one and three-quarters inch long and five-eighths inch wide, a bit more elliptic and with a more noticeable point than the compact form. It blooms a week to ten days later, just enough to avoid a sunny springtime location. The foliage, although typical *keiskei* color, is a bit darker than for compact form, thus affording a better contrast with the pale yellow flowers.

A more diminutive form of *cordifolia* (typical leaves one-half inch wide and one inch long) and seemingly not quite as hardy is the selection '*Yaku Fairy*' which, like *cordifolia*, presumably came from the Japanese Island of Yakushima. The tales of moisture on mountains of this island will explain why these dwarfs, like the species, are not happy with the heat and drought of an open location in the East.

Both *cordifolia* and the selection '*Yaku Fairy*' have been used frequently in breeding over the past decade or two and the results are beginning to show up. They are, however, fine plants in their own right. The better selections of *cordifolia* are hard to beat.

The plant in the Plant Sale originated as one of three selected seedlings of ten which germinated many years ago from American Rhododendron Society seed exchange listed then as "*cordifolia-best yellow*".



As the season progressed, I have developed some new ideas on collecting root weevils.

The first plants in the spring where I found them were *Blechnum spicant* (Deer fern), *Hydrangea petiolaris* and *Phyllitis scolopendrium*.

As the leaves of these early plants toughened up, the hungry little monsters moved on primulas, grape vines and especially the various *Parthenocissus* (Boston Ivies, etc.), lettuce and wisteria. I have never found them on strawberries!

As the weather becomes warmer, they become quicker and drop to the ground if disturbed so you must be quick and sure. They can cover up to 35 feet overnight so are not necessarily on the same plant day after day.

When finished for the evening, I scrape all the beetles and any slugs I have picked up (with a spoon) into a partially filled jar of water and clamp on the lid. Next day I get rid of the creatures. How? Too awful! You work our your own system.

Joselyn Horder



TEN PLANTS TO SEE THIS SUMMER

By Kathy Mendelson

By summer, the color scheme in the Carl S. English, Jr. Gardens has softened. The showy splashes from flowering cherries, rhododendrons, and camellias has faded. With spring past, the garden offers a rich pallet of greens brightened by occasional spots of color from summer flowering trees and shrubs. Mixed annuals and perennials in formal beds east of the Administration Building add more color. There is much to see from June to August, including these ten plants:

1. All summer, the garden's most popular plants are the shrubby fuchsias (*Fuchsia x hybrida*) in Bed 315. Covered with literally hundreds of nodding flowers, these three foot tall fuchsias are much like the graceful plants grown in baskets throughout Seattle. The difference? Ours are about 40 years old, and have developed thick, woody stems. Each fall, these tender fuchsias, which are kept balled in burlap year round, are moved to protected storage. By early spring, they are transferred to the greenhouse. In May, they are planted in the island bed to bloom and attract hummingbirds all summer.

2. Growing in a moist area of the garden we call the swamp, the umbrella plant, *Peltiphyllum peltatum* (Bed 213), has large, lush leaves all summer. This herbaceous perennial's leaves are nearly round, and measure up to 16 inches across. Just as both its common and scientific names suggest, the stems are attached near the center of the leaves. *Peltiphyllum* is native to moist stream banks in Oregon and California, where Mr. English collected it.

3. The garden offers a fine collection of mahonias, including a dwarf form, *Mahonia pumila nana*. Working its way among the boulders in the rockery (Bed 120), this mahonia grows only a few inches tall. Although the plant is small, its flowers and fruit are not. In spring, generous sprigs of bright yellow flowers appear among the dusty-green leaves. In summer, blue-black berries in clusters the size of a baby's fist rest on the leaves. This mahonia was collected by Mr. English.

4. Fragrant flowers are not common in the garden. But those that are offer a special treat. In August, look for white flowers with a spicy sweet fragrance on *Eucryphia glutinosa*, a six foot shrub in Bed 5. *Eucryphia*'s flowers are reminiscent of large, pure white apple blossoms with dozens of yellow tipped stamens. Unlike apples, *Eucryphia*'s flowers have only four petals. Leaves on this Chilean native are partially evergreen, and are divided into two rows of leaflets. Look for 'Plena', the double flowered form, in Bed 327.

5. The oak-leaf Hydrangea, *H. quercifolia*, is a living example of a mixed metaphor. This plant's flowers are immediately recognized as hydrangea blossoms. The creamy white cones contain a typical mix of tiny fertile and larger sterile flowers. The leaves pose more of a question. At first glance, they look as though they might be from some unknown oak. Together, the foliage and flowers create a handsome shrub that blooms from mid-July to August. Look for it in Bed 211.

6. Another color spot, this one with bright red-orange flowers, is the California fuchsia, *Zauschneria californica* var. *latifolia*, in Bed 101. This herbaceous perennial produces a spreading mat of small, gray leaves. Its trumpet shaped flowers, which may attract hummingbirds, appear in late summer when few of the garden's other perennials are in flower. To be kept looking its best, *Zauschneria* is trimmed each winter.

7. Rock roses in shades of lavender and white bloom in several locations in the garden. Although not true roses, the flowers of *Cistus* 'Silver Pink' (Bed 118) have five delicate petals and look a little like single roses. Rock roses thrive a sunny spot, where on hot days, the leaves of some species are slightly sticky and fragrant.

8. Late summer is acorn season. Starting in August, the evergreen, as well as the better known deciduous oaks, produce acorns. So does yet another member of the Fagaceae: the tanbark oak, *Lithocarpus densiflorus*. Look for tanbark oak's acorns in cups covered with dozens of fleshy spines. The acorns are perhaps the largest in the garden. Four or five make a handful. Earlier in the summer, the tanbark blooms, with long yellow catkins that shoot out from among the dark, evergreen leaves. Tanbark oaks are medium-sized trees located in Beds 22 and 23.

9. Shade trees are at their prime in summer. From a distance, their deciduous leaves offer a variety of textures and colors that complement the evergreens. Up close, the trees create changing patterns of light and shadow as sunshine filters through the leaves. One of the garden's nicest shade trees is the Linden, *Tilia tomentosa* in Bed 103. Look for the long winged bract on its flowers and fruit.

10. Summer would hardly be summer without flowers. Each year, the formal beds east of the Administration Building are planted with flowers in a display that changes from year to year. Recently, the beds have featured mixed plantings of annuals and perennials, including lupines, cosmos, dahlias, purple coneflowers, cape marigolds, and many others. The colors are bright and sunny, just like the weather on our best days.

The Carl S. English, Jr. Gardens are located at the Hiram M. Chittenden Locks, 3015 N.W. 54th Street, Seattle. The gardens are open every day from 7 a.m. to 9 p.m. Bed numbers used in this article refer to a garden map available free from the Locks' Visitor Center (hours: 11 a.m. - 8 p.m., daily, June 15 - September 15).



Errata: Vol. 12, No. 1, Page 19, BOOK REVIEW: ROCK PLANTS FOR SMALL GARDENS, by Royton E. Heath, is obtainable from the Publisher, Timber Press, 9999 S.W. Wilshire, Portland, Oregon 97225. The price is \$19.95



GAULTHERIA

Carl S. English, Jr.

In addition to the progressive array of color, the rock garden needs a certain amount of substantial greenness to act as a background for the floral display. The various species of *Gaultheria* which have come to the attention of plant hunters within recent years, fill this need admirably.

Because practically all of the species have horizontal rootstocks, they also make excellent matting shrubs, and in a short time can form effective growth over desired areas. They are especially valuable to use as ground covers for rhododendron and azalea plantings. Being members of the Ericaceae, they thrive in the same acid soil as that required by the various members of this group and fit naturally into the ecological scheme.

The plants are tolerant of shade and like sandy, peaty soil that is somewhat moist. They lend themselves to several methods of propagation, by seed, layering, division of old plants and by cuttings.

The genus, *Gaultheria*, was founded in 1753 when Linnaeus honored a Quebec physician, Dr. Gaultier, by naming the first known of this group for him. We know this plant of the eastern woodlands as *Gaultheria procumbens*. Commonly we call it aromatic wintergreen, checkerberry, partridgeberry or boxberry, and treasure it for the evergreen beauty of its lustrous foliage, the daintiness of its pinkish, urn-shaped flowers, and for the attractiveness of its scarlet fruit.

At present, ninety or more species of *Gaultheria* are known. The distribution of these includes a part of both the northern and southern hemispheres, representatives being found in eastern and western parts of North America, Central America, South America, eastern and southeastern Asia, New Zealand, Tasmania and Australia. None occurs in Europe, however.

Here is North America, we have at least twenty-four species, four, including *G. procumbens*, *G. shallon*, *G. ovatifolia* and *G. humifusa*, being found within the United States, and the remainder chiefly in Mexico.

Our own salal, *Gaultheria shallon*, with its large, leathery, evergreen leaves and generous, white or pinkish blossoms, should be more appreciated in its homeland. Rhododendrons and other flowering shrubs may be planted among patches of it to produce a pleasing, natural effect.

Gaultheria ovatifolia and *G. humifusa*, both exquisite, low, mat-forming species from our Cascade Mountains, bloom freely and produce an abundance of lovely, pinkish flowers. The red berries, which are very tasty, are so eagerly sought by birds that I have often found it difficult to gather enough ripe fruit to yield an appreciable amount of seed. *G. ovatifolia* is the larger of these two species, having shiny, ovate leaves of reddish green, about an inch in length. *G. humifusa* has dull green leaves about one half an inch long. Both of these plants make excellent cover for the ground about dwarf heaths or dwarf rhododendrons.

Gaultheria Veitchiana is a very promising species from western China. It suggests an understudy of *G. shallon*, with bronzy, leathery leaves of pleasing, rugulose surface, and about half as long as those of *G. shallon*. This is a very handsome shrub with its nodding flowers and conspicuous, indigo-blue berries.

G. adenothrix, from Japan, suggests our *G. ovatifolia*, in every respect except that it is taller, growing up to a foot in height and having somewhat larger leaves.

G. cuneata, from Western China, is a dainty, much-branched, little shrub that grows nearly a foot high. The leaves are small, being only about half an inch long and reddish green in color. The white flowers occur in small clusters, followed by white berries.

From the Himalaya Mountains comes *G. nummularioides* with its long, procumbent branches and two-ranked leaves. The flowers are pinkish, followed by blue-black berries. This species is eagerly sought by garden enthusiasts, once they have seen it.

Five species from New Zealand and Tasmania that I have tried have, thus far, proved hardy here. The first, *G. perplexa*, perplexes everyone who sees it, as do so many other strange-looking plants from New Zealand. The numerous, slender branches of this species resemble heath, but the leaves are broader and longer than heather leaves and are of an olive-green color. The berries are red.

G. antipoda, which extends into Tasmania, and *G. depressa* are attractive little shrubs with small, shiny leaves of olive-green. *G. antipoda* has either white or red flowers, followed by correspondingly white or red berries. *G. depressa* is more prostrate, with white flowers and berries. In New Zealand it is called snowberry.

My seedlings of *G. hispida*, from New Zealand, are now two inches high and bear attractive leaves of elliptic shape. This species is said to be procumbent and to grow to a height of six to eight inches. Time will reveal additional characteristics.

G. oppositifolia, known in New Zealand as lily-of-the-valley plant, is a handsome shrub that reaches a height of five to eight feet, has fairly large leaves and bears clusters of white flowers. Although far too tall for rock garden use, this species is a valuable addition to the shrub border.

While writing this, seed of the new species, *G. Wardii* from Asia, has just been received from the Royal Botanic Garden, of Edinburgh, Scotland. It is with happy anticipation that I await its development to see what kind of plants it will produce.

Many species that are supposed to be tender, such as those that are found in Mexico, may come from high enough altitudes that they will provide hardy in the Puget Sound area. In many cases, all they need is an opportunity to demonstrate their usefulness in our gardens.



WINTER '83-'84: TWO SPRINGS LATER

Dennis Thompson, Seattle, Washington

Reading through Florence Free's observations on the hardy and the dead following our first really severe winter since I have been gardening in Seattle, I realized that I had made some assumptions about plant hardiness that were wrong -- at least for the last two winters. My primary experimental gardens at the moment are on the grounds of Edmonds Community College -- probably because that's where I seem to spend all my daylight hours. I have two general garden areas that are distinct in character.

The first is a container garden on the balcony of the Horticulture/Social and Human Service Building, Meadowdale Hall. This area is concrete and brick, shielded from the early morning sun by a second story on the east side of the building and shielded from the late afternoon sun by a stand of Douglas firs. It is open north-to-south, however, from the Arctic Circle to North Seattle. The wind tunnel effect in the winter is unbelievable! All plant material is growing in pots or in piles of soil directly on the concrete flooring.

The second is ground beds in combinations of sun and shade. The soil is a very heavy, gritty clay. Organic matter has been added only recently and has effected the soil's character little or none. Originally, there was a peat bog in the immediate area so that it is a hostile habitat for many plants. A slight slope has provided possibly half an inch of surface drainage. Large areas of campus lawns drown out each winter.

In the ground beds, there was some interesting divisions of survival. I lost all of the rosemary plants that received any direct sun. Plants growing within a foot of the dead plants, but not in the sun, all survived. *Raphiolepsis* in nearby areas departed the scene as did a small bed of *cyclamen hederifolium* and the majority of the *polyanthus auriculas* and *primulas* (exceptions, the *julianas* and the old-fashioned double, *Cottage White*).

The surprises were more those plants that didn't succumb. *Aspidistra eliator*, *Saxifraga sarmentosa*, and *Acanthus mollis* came through undamaged. *Salvia officinalis* and French lavender which were partially overgrown by salal were killed back to the salal cover but struggled back.

The deck had a strange mixture of survivals and departures also. Among the unexpected survivors were *Arctostaphylos manzanita*, *Europs*, a Spanish *Erodium*, two acenas, snapdragons, *Primula marginata*, and auriculas. Among the departed were *Clematis montana*, *Arbutus unedo*, *Kalmiopsis leachiana*, *Astilbe*, a wide variety of species crocus and tulips, *Lilium pardalinum* and one of two fastigate, dwarf *Juniperus communis*. The strangest of the occurrences were the skip-a-year plants. *Crocus chrysanthus fusco-tinctus* produced neither flower nor leaf in 1984. There had been 20 corms which flowered in 1983. This spring there were 43 blooms. *Crassula sarcocaulis* went spongy in March of last year -- both the species and the selected white form 'Basutoland' -- and *Crassula milfordii* lost all its leaves with the first warm day. There was no sign of life through the entire of last summer. In the autumn, leaves appeared where the two *C. sarcocaulis* had been and over about half the area occupied by the *C. milfordii*. They seem unaffected by last winter's extremes.

The leaves on the red form are definitely from the old base. I cannot tell on the white form whether it is from the roots or seed. The plants are not yet large enough to determine the growth habit. A strange seedling showed up in the spring of 1984 at the base of a birdbath/herb planting. It was a Gentian *acaulis* which flowered this spring! I have not had *G. acaulis* set seed before, and the parent plant is nearly 30 feet from the seedling.

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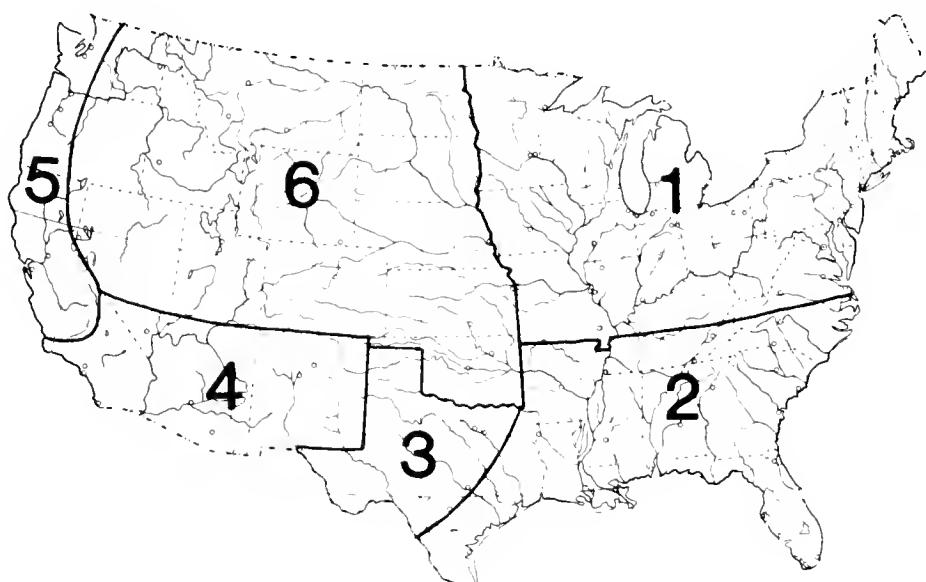
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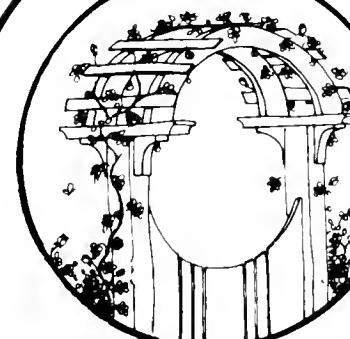
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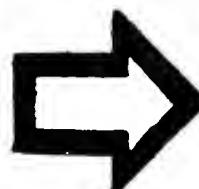
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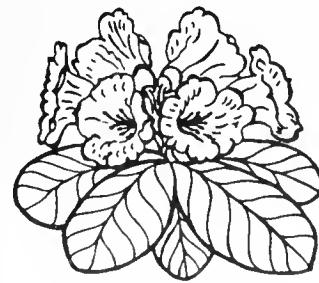
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